

MODIFIED SINE WAVE INVERTER

12V DC TO 220V-240V AC 50Hz

USER MANUAL



For more information on the
Aerpro range go to our website



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2. INTRODUCTION

The Aerpro API600W/API800W is an easy to use power inverter that is capable of providing 240V power from a 12V battery source. It allows you to power 240V appliances from a 12V battery (i.e your vehicle battery) and is ideal for use when a standard household 240V power point is not accessible. With 600W/800W continuous and 1200W/1600W peak power, this inverter is suitable for many small devices. The API600W/API800W is a Modified Sine Wave inverter, suitable for non-sensitive appliances. It has all the safety features you need including overload and short circuit protection, and connects directly to a battery via the supplied 80cm lead with alligator clips or ring terminals.

3. FEATURES

- Modified sine wave, suitable for non-sensitive appliances
- 1200W Peak power, 600W continuous power (API600W)
- 1600W Peak power, 800W continuous power (API800W)
- Provides 240V power from a 12V battery source
- Operate small 240V non-sensitive devices
- Single 240VAC output socket for dedicated running of a single appliance
- 2.1A USB Port for charging/powering a USB device
- Over temperature & overload protection to prevent damage to the battery, inverter or appliance

4. SPECIFICATIONS

	API600W	API800W
Rated power	600W	800W
Peak power	1200W	1600W
Fuse (Internal)	35A x2	50A x2
Output waveform	Modified Sine Wave	
Input voltage	12.8V-13.2V	
Output voltage	230V±5%	
Working voltage	11V-15V	
USB output	DC 5V 2100mA	
Max output efficiency	>80%	
Low voltage alarm	10.5V±0.5V	
Low voltage shutdown (no load)	9.5V±0.5	
Over voltage shutdown (no load)	15.5V±0.5V	
Overload alarm	Yes	
Overload shutdown	≥720W	≥960W
Short circuit protection	Yes	
Environment temperature	-10°C to 40°C	
Cable length	80cm	

5. SAFETY FIRST

Incorrect installation or misuse of the inverter may result in danger to the user or hazardous conditions. We urge you to pay special attention to all **CAUTION** and **WARNING** statements. **CAUTION** statements identify conditions or practices that may result in damage to the inverter or to other equipment.

WARNING statements identify conditions that may result in personal injury or loss of life.

WARNING! Shock hazard! Keep away from children

The inverter generates the same potentially lethal AC power as a normal household wall outlet. Treat it as you use any other AC outlet.

- Do not insert foreign objects into the inverter's AC outlet, fan or vent openings.
- Do not expose the inverter to water, rain, snow or spray.
- Do not, under any circumstance, connect the inverter to AC Power.

WARNING! Ventilation

The inverters housing may become uncomfortably warm, reaching 140F (60°C) under extended high power operation. Ensure at least 2 inches (5 cm) of air space is maintained on all sides of the inverter for adequate cooling. During operation, keep away from materials that may be affected by high temperature.

5. SAFETY FIRST

WARNING! Explosion hazard

- Do not use the inverter in the presence of flammable fumes or gases, such as in the bilge of a petrol powered boat, or near propane tanks.
- Do not use the inverter in an enclosure containing automotive-type, lead-acid batteries. These batteries, unlike sealed batteries, vent explosive hydrogen gas which can be ignited by sparks from electrical connection.
- When working on electrical equipment always ensure someone is nearby to help you in an emergency.

CAUTION!

- Do not connect live AC power to the inverter's AC outlets. The inverter will be damaged even if it is switched OFF.
- Do not expose the inverter to temperatures exceeding 104F(40°C).

CAUTION!

Do not use the inverter with the following equipment:

- Small battery operated products such as rechargeable flashlights, some rechargeable shavers and night lights that are plugged directly into an AC receptacle to recharge.
- Certain battery chargers for battery packs used in hand powered tools. These chargers will have warning labels stating that dangerous voltages are present at the charger's battery terminals.

5. SAFETY FIRST

CAUTION!

Check that the battery voltage (12 Volt) is the same as the input voltage of power inverter (for example, DC 12V of battery connected with input voltage 12V of the inverter)

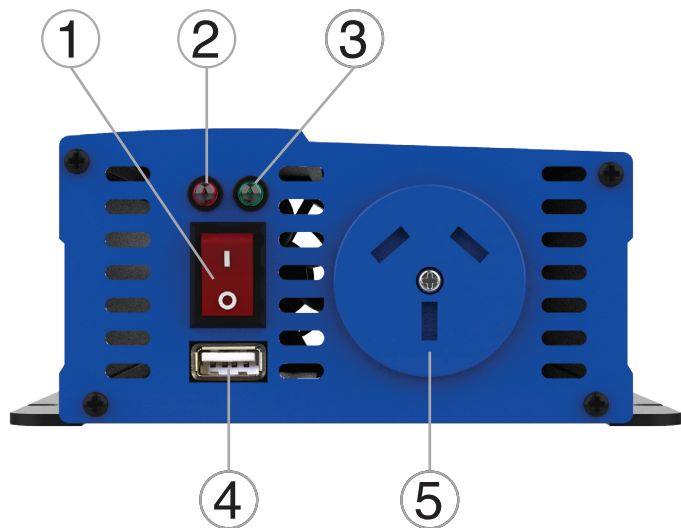
6. SAFETY FEATURES

- Input protections: Polarity reverse(Fuse broken)/Over and under voltage and shut Down
- Output protections: Short circuit/Overload/Over temperature
- Power ON/OFF SWITCH and LED indicator
- Input and output full isolation
- Low standby power consumption.

7. OPERATING ENVIRONMENT

- For safe and optimum performance, install the inverter in a location that is dry
- Do not expose to water or spray, do not use or store in a damp environment.
- **Cooling** - Operate only in ambient temperatures between 0°C and 40°C. Keep away from surface heating vents or other heat producing equipment.
- **Location** - Clean and free of dust and dirt. This is especially important if the inverter is used in a working environment.

8. OPERATING INSTRUCTIONS



(1) **ON/OFF** power switch

This switch turns ON/OFF the inverter

(2) **Overload (Fault) indicator**

If the LED overload on, indicates that the inverter is in a state of warning or protection, cease use.

(3) **Power indicator**

When lit, it indicates the inverter has been turned on and is ready for use.

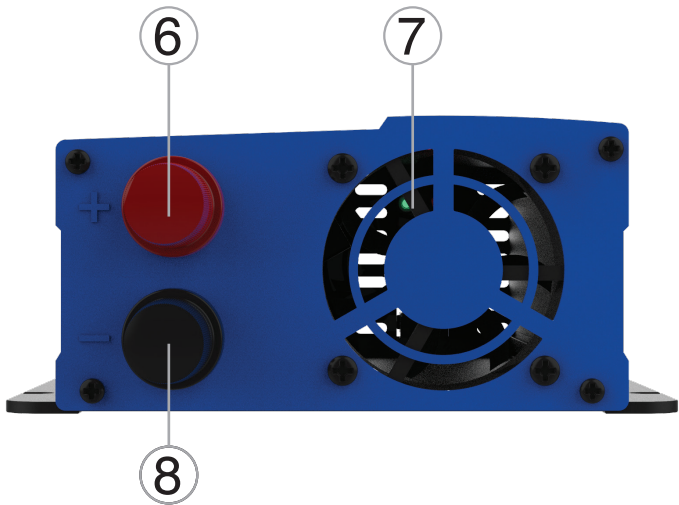
(4) **USB outlet**

Output DC 5V 2100mA power for charging only

(5) **AC outlets**

Output AC power

8. OPERATING INSTRUCTIONS



(6) **12 Volt positive (+) terminal**, for connection to the positive (+) of a 12V battery

(7) **High speed cooling fan**

The fans cool the internal circuits automatically, while the inverter is in working

(8) **12 Volt negative (-) terminal**, for connection to the negative (-) of a 12V battery

9. POWER SUPPLY

The power supply source needs to guarantee at least 10.5 Volt to max.15.0 Volt DC and enough permanent output to operate the unit.

NOTE: Connecting the DC power in the wrong way (reverse polarity) will destroy the power inverter and may damage the electrical equipment in use, please follow the steps below in the correct sequence and make sure to use the inverter in the correct way.

9.1. Connecting to the power supply

1. Unpack the power inverter and ensure that the switch is at the OFF position.
2. Supplied are one red and one black ring terminal to alligator clamp cable for the battery.
3. Screw tightly the red ring terminal end cable to the inverter's "+" and attach the red alligator clamp/ring terminal end to the vehicles battery's "+" terminal.
4. Screw tightly the black ring terminal end cable to the inverter's "-" and attach the black alligator clamp/ring terminal end to the vehicles battery's "-" terminal.
5. Turn on the inverter switch, green light should come on
6. If green light is on the inverter is ready for the desired electrical appliance to be plugged into the AC output socket of the inverter.

Caution: Inverter may only be operated with 12 Volt batteries. It cannot be operated at 6 Volts and at 24 Volts the inverter will be damaged!

9. POWER SUPPLY

9.2. Connecting the load

The load connected needs to lie within the specifications of the power inverter .

- Insert the plug into the socket of the power inverter.
- Press the “On” switch-the green LED lights up, the unit is operational.
- The LED will turn off if the voltage drops below 10V and the power inverter switches off-switch off the consumer and disconnect the plug.

Caution: Never draw power from the power inverter with an extension cable.

9.3. Rechargeable units

When a rechargeable unit is used for the first time, observe the temperature for approx. 10 minutes, if it becomes relatively hot, the unit cannot be operated using the power inverter.

Rechargeable units can be easily operated using a separate charger or transformer.

Caution: Some rechargeable units can be directly connected to standard sockets. These units can damage the power inverter.

9.4. Fuse

The power inverter is fitted with a barrel fuse in the cap of the cigar lighter plug. Defective or blown fuses should be exchanged with new fuses of the same rating by unscrewing the cap of the cigarette lighter plug.

9.5. Position of the power

- No liquid may be allowed to enter the unit.
- The ambient temperature should lie between 10°and 27°C, do not place on or directly adjacent to a heat source.
- Do not expose to direct sunlight..
- Do not place any objects on top.
- Do not use close to inflammable materials or in a places where inflammable vapors or smoke can occur.

9.6. Connection via the vehicle's battery

It is recommended running the vehicle's motor for approx.15 minutes every hour to prevent the battery from discharging. The power inverter can be operated when the motor is running or when the motor is at a standstill.

It is possible that the power inverter may not work due to the voltage drop during the starting process.

9.7. Alarm (low battery voltage)

The power inverter switches off automatically when the voltage drops below 10 Volt.

9.8. Malfunctions (Protective features of the power inverter)

Low battery voltage may damage the battery but not the power inverter as it switches off. Once the normal operating voltage is reinstated, the unit can be operated again.

Overload protection - If the incoming voltage exceeds 15Volt DC, or if the permanent output is exceeded, the unit switches off automatically.

Short-circuit protection - If the wires are crossed or the output has short-circuited, this usually causes the 20 amp fuse to blow. Unplug the load from the power inverter and exchange the fuse.

Overheating protection - If the internal temperature of 65°C is exceeded, the unit switches off automatically. After a cool-down phase of approx.15 minutes, the unit can be switched on again.

9.9. General Problems

Some inductive motors may require several start-up attempts. If the device only runs for a moment, switch the power inverter on and off quickly and repeat until the device runs.

Humming in music systems

The loudspeakers of some stereo systems may hum as they cannot filter the modified sine waves that the power inverter generates.

Problems when operating a TV

The power inverter is already screened, although there may be visible interference, especially if the TV signal is weak. Try one of the following actions:

Position the power inverter as far away as possible from the unit, the aerial and the aerial cable.

Look for the best possible position for the aerial cable, the power cable, the TV and the power inverter, use good quality aerial cables.

10. TROUBLESHOOTING

Problem: Low outgoing voltage

Solution: • The power inverter is overloaded Incoming voltage is below 10.6 Volts.

- Reduce the outgoing output.
- Ensure adequate incoming voltage of over 10.6 volts

Problem: battery power is too low

Solution: • Poor condition of the battery Inadequate power supply or inappropriate voltage drops

- Replace the battery

Problem: No output

Solution: • The power inverter is not at operating temperature.

- Switch the power inverter off and on again.
- If necessary repeat the process until the operated unit starts.

10. TECHNICAL ASSISTANCE

Never disassemble or repair the inverter by yourself.

If you need assistance setting up or have an issue regarding the use of your Aerpro product contact Aerpro Customer Support. Australian Agent:

TEL: 03 – 8587 8898 FAX: 03 – 8587 8866

Mon-Fri 9am – 5pm AEST

For more information, manuals, software or other products in the Aerpro range please go to our website. Aerpro.com

This manual is considered correct at time of printing but is subject to change.

For latest manuals and updates refer to the website.

Please retain this user guide for future reference.